

Winter 2012
Math 499S
Bouillon 106, 1:00 - 1:50 TTh

Instructor: Dr. Jim Bisgard

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Office Hours: MWF 1:00 - 2:00,

TTh 2:00 - 3:00 and by appointment.

Course Goals: The goal of this class is to give you an opportunity to assemble a portfolio demonstrating various types of proofs, as well as to reflect on what you have learned as a Mathematics Major. In addition, you will read a mathematical article and prepare a written and oral summary.

Grading: You will be required to complete the following assignments:

- Complete a portfolio demonstrating a non-trivial example of each of the following types of proof: (20%)
 1. Direct Proof
 2. Contrapositive Proof
 3. Proof by Contradiction
 4. Proof by Cases
 5. Proof by Mathematical Induction
- A 3-5 page paper on “An Application of Mathematics” (20%).

The application should be at the calculus level or higher, and may come from any area of mathematics. As you look for a topic, I suggest that you talk to faculty, either in the math department or in another department!
- A 3-5 page paper on “What is Mathematics?” (20%)
- A paper summarizing a mathematical article (15%)

A good place to begin looking for a topic is the mathematics faculty!
- An oral presentation summarizing a mathematical article (15%)
- Class Participation (10%) (being in class and writing a one-paragraph summary for each speaker)

Deadlines

- **You need to send me an email with all of your proofs and final drafts of all your papers (as attachments) by Friday, March 16.**
- The article summary paper has the following due dates (at beginning of class):
 - Topic: January 17
 - Draft: February 7
 - Final Draft: February 28

- The application paper has the following due dates (at beginning of class):

Topic: January 31

Draft: February 14

Final Draft: March 6

- The “What is Math?” paper has the following due dates (at beginning of class):

Draft: February 21

Final Draft: March 8

- The oral presentations on the articles will occur on the last two class days and during the final exam period (March 13, 12:00 - 2:00), so you should be prepared to present beginning March 6.

Speakers and Participation: We will have speakers once a week, typically on Thursdays. Attendance for these talks is mandatory, and you are expected to type a one-paragraph summary of each talk. This summary is due at the beginning of the following class. In preparation for your presentations, you should also write down two things that you liked about the talk, and two things you didn't like about each talk. Your participation grade is based on attendance at these talks, as well as your one-paragraph summary!

Disability Support:

Students with disabilities who wish to set up academic adjustments in this class should give me a copy of their “Confirmation of Eligibility for Academic Adjustments” from the Disability Support Services Office as soon as possible so we can discuss how the approved adjustments will be implemented in this class. Students without this form should contact the Disability Support Services Office, Bouillon 205 or dssrecept@cwu.edu or 963-2171.